

# GRADING, DRAINAGE & UTILITIES FOR ALMA SCHOOL COMMERCIAL CENTER

## NOTES TO CONTRACTOR

- The contractor shall be responsible for locating underground pipelines, utilities and structures in advance of construction and shall observe all possible precautions to avoid damage to such, but the Engineer and/or owner will not guarantee any locations shown on the plans, or those omitted.
- The contractor shall notify the City Engineering Inspection Department at least 24 hours in advance of any construction so that inspection may be made by the City of Mesa, Arizona (834-2273).
- The contractor shall provide sufficient men and equipment on the job at all times during construction to comply with specifications and to complete the work as ordered by the owner. "Blue Top" curb stakes, subgrade stakes, and "blue tops" for ABC will be furnished by owner. Contractor will be responsible for setting any other controls or grades necessary.
- It is the sole responsibility of the contractor to obtain any permits required at his own expense. Approved plans furnished by The City of Mesa, City of Mesa, and S.R.V.W.U.A. permits are required.
- The contractor shall be responsible for adjusting valve boxes and manholes to finished grades prior to installing asphaltic concrete surface course as per details 270 and 472.
- Inspection shall be made by the City of Mesa at the contractor's expense.
- It is the contractor's responsibility to see that all power poles or any other utility causing any obstruction to construction shall be relocated prior to construction.
- All work and materials shall conform to current M.A.G. specifications and details and City of Mesa amended details or work and materials will be subject to removal and replacement at the contractor's expense.
- The contractor shall comply with the provisions for traffic control and barricading as provided by the City of Mesa "Traffic Barricade Manual".
- All staking shall be done by the Engineer. The contractor shall notify the Engineer forty-eight (48) hours in advance of any construction. Construction stakes will be necessary for sanitary sewers, domestic water, fire hydrants, drainage facilities, concrete curb, street, sub-grade, aggregate base course, and survey monuments.
- The Engineer certifies that he has contacted all interested utility companies, and has transferred all existing and/or proposed utility lines and related information onto the plans and that he has also correctly plotted all existing and required right-of-way and easement lines.
- The contractor shall be required to install a night tie-in for any new water lines that will affect existing service sufficient to warrant the same in the opinion of the City of Mesa Inspector.
- The contractor and the developer shall be responsible for coordinating the location of the driveway to avoid conflict with utility services, and approved by the City of Mesa.
- Water line tests will be completed so that no old lines will be included in the test.
- All sewer and water stationing is approximate only.
- Backfill material adjacent to the City Of Mesa gas pipe shall be free from material injurious to the pipe or coating. When injurious materials are encountered, pad the pipe with at least 4 inches of fine (3/8 inch and smaller screenings) material 3/8 inch and larger screenings are considered injurious material to the coating.
- When gas mains and services are exposed contact the City of Mesa at 834-2361 for inspection of exposed pipe and coating prior to backfilling of the trench.
- Contractor shall arrange for irrigation dry ups as required.

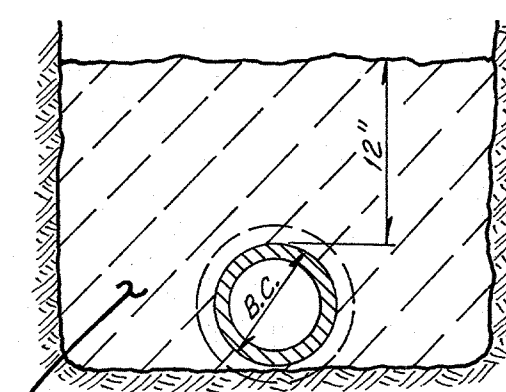
## SPECIAL NOTES

- All utility installations in conflict with these plans shall be removed or relocated at the contractor's expense whether called for on the plans or not. The contractor shall have satisfied himself as to any utility removal or relocation requirement and his acknowledgement shall be assumed upon his contract or agreement execution.
- All quantities expressed or implied on these plans are approximate only and are for use as a guide. Any contract shall have its final payment based on as-built field measurements submitted by the contractor.
- Any question raised relative to accuracy of improvement installation shall not be raised subsequent to completion of the work unless all survey stakes are maintained intact. Should such stakes not be present and verified as to their origin, no claim for additional compensation for correction shall be presented to any party and such work shall be corrected by the contractor at his expense.

## BEDDING DETAIL

### GAS NOTE:

IF NATURAL GAS IS REQUIRED CONTACT  
GAS ENGINEERING AT (602) 834-2509



CLASS "D"  
FLAT BOTTOM TRENCH  
BEDDING FACTOR 1:1  
PER M.A.G. SPECS.-SEC.601

## RETENTION CALCULATIONS

50 YEAR STORM ~ 24 HOUR DURATION

NET AREA = 1.65 ACRES = 71,752 S.F.

CONCRETE AREA = 5,540 S.F.,  $C_1=0.95$   
BLDG. ASPH. AREA = 52,962 S.F.,  $C_2=0.85$   
LANDSCAPE AREA = 13,250 S.F.,  $C_3=0.15$

VOLUME REQUIRED =  $A \cdot C(3") = ACCO.25 FT.$   
 $VOL_R = [5,540(0.95) + 52,962(0.85) + 13,250(0.15)] 0.25$

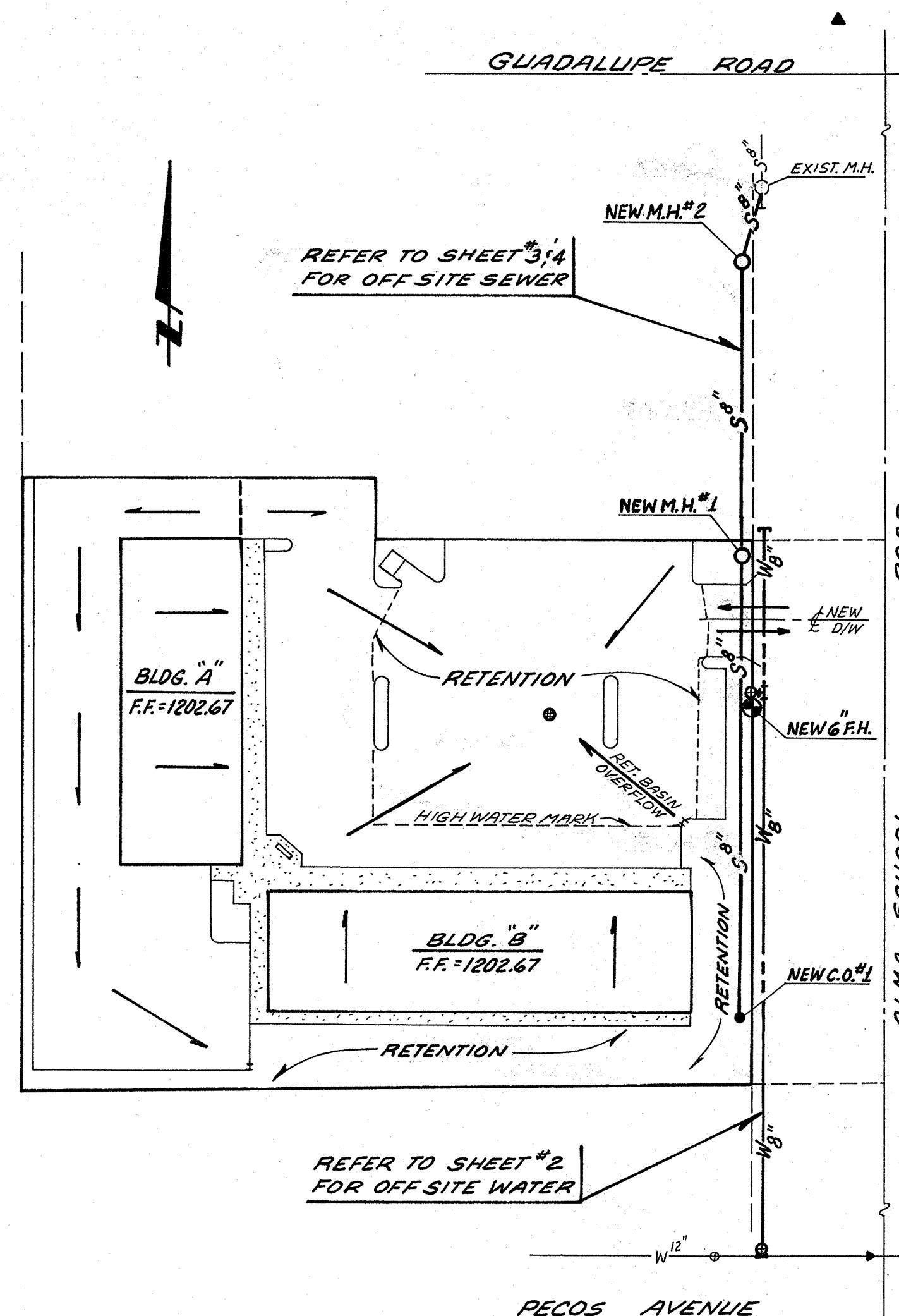
$VOL_R = 13,067 C.F.$

VOLUME PROVIDED IN RETENTION AREAS:

AREA I. - PAVEMENT RETENTION:  
 $A_1=15,950 S.F., A_2=0 (VERTEX C)$   
 $VOL. = \frac{A_1 + A_2 + \sqrt{A_1 \times A_2}}{3} \times d$  WHERE  $d=1.77 FT.$   
 $VOL. = 15,950 \div 3 \times 1.77 = 3,410 C.F.$

AREA II. - LANDSCAPED RETENTION BASIN:  
 $A_1=5,330 S.F., A_2=2,530 S.F., d=1 FT.$   
 $VOL. = \frac{A_1 + A_2}{2} \times d$   
 $VOL. = [5,330 + 2,530] \div 2 \times 1 = 3,930 C.F.$   
 $VOL_P = 13,340 C.F.$

PART OF THE NE 1/4 OF SEC. 8, T-1S, R-5E  
G.&S.R.B.&M., MARICOPA COUNTY, ARIZONA



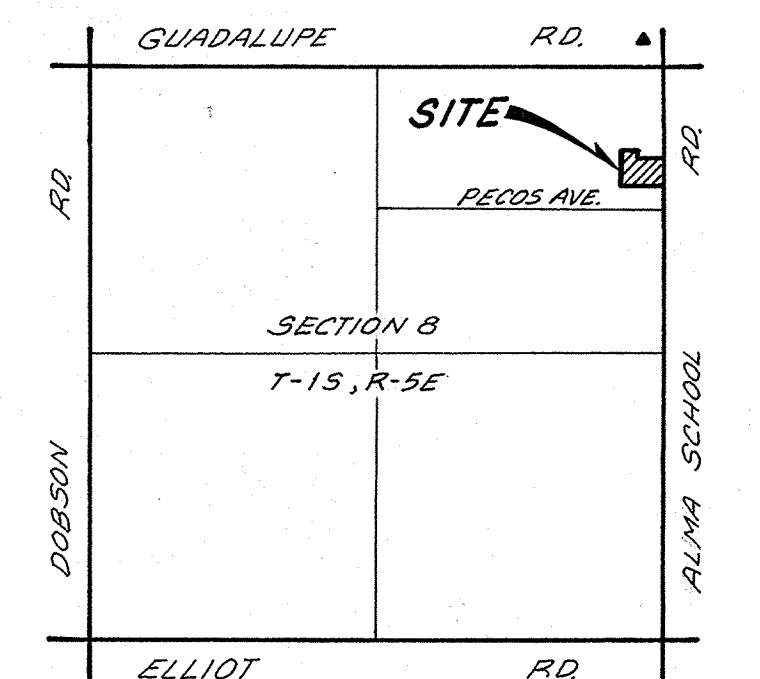
## KEY MAP

## LEGEND

T.C.=01.67	TOP OF CURB GRADE
G.=01.22	GUTTER GRADE
B/W=01.72	BACK OF WALK GRADE
C=02.67	CONCRETE GRADE
P=01.99	PAVEMENT GRADE
X 01.8	EXISTING GROUND GRADE
• 01.9	NEW GROUND GRADE
G.B.	GRADE BREAK
F.F.	FINISH FLOOR
→	DRAINAGE DIRECTION

## BENCHMARK

CHISELED SQUARE IN THE TOP  
OF CURB AT THE NORTHWEST CORNER  
OF GUADALUPE RD. & ALMA SCHOOL RD.  
ELEVATION = 1203.13  
CITY OF MESA DATUM



## VICINITY MAP

## SHEET INDEX

SHT. #1	TITLE SHEET
SHT. #2	GRADING, DRAINAGE & UTILITIES
SHT. #3/4	SEWER PLANS

THESE QUANTITIES ARE MEANT AS A GUIDE FOR CITY  
BIDDING PURPOSES ONLY. CONTRACTORS SHOULD  
VERIFY QUANTITIES AND BASE HIS BID SOLELY UPON  
HIS OWN ESTIMATE.

## ESTIMATED QUANTITIES

329 L.F. 8" V.C.P. WATERLINE:	
1 12" X 8" T.S.V.B. & C.	
1 8" VALVE, BOX & COVER	
1 6" FIRE HYDRANT COMP.	
9 L.F. 4" A.C.P. WATERLINE	
1 EA. 2" WATER SERVICE	
1 EA. 1 1/2" WATER SERVICE	
779 L.F. 8" V.C.P. SEWER LINE	
1 EA. MANHOLE	
1 EA. CLEAN OUT	
3 EA. 4" SEWER TAPS	
1 EA. DRYWELL	

## DEVELOPER

DAVIDSON, GRAHAM & MYERS  
2920 NORTH 7TH STREET, STE. #4  
PHOENIX, ARIZONA - 85014  
PHONE: (602) 263-7626

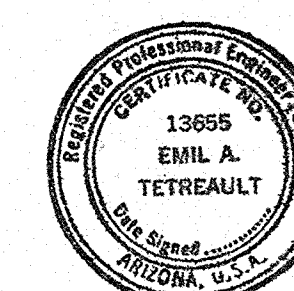
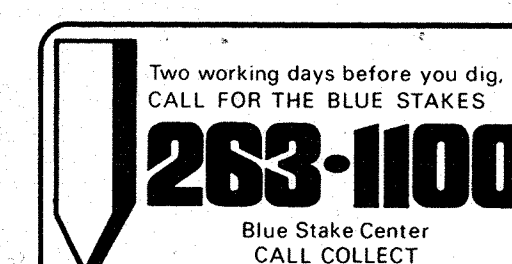
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C-1

## APPROVALS

APPROVED BY: \_\_\_\_\_ DATE \_\_\_\_\_  
CITY ENGINEER ~ CITY OF MESA, ARIZONA

APPROVED BY: Donald Conroy PE SUB 3/15/84  
MARICOPA COUNTY HEALTH DEPT. 244-7914 DATE  
(DIVISION OF ENVIRONMENTAL SANITATION)  
SANITATION ENGINEER



#	DATE	DESCRIPTION	IN	V
1	2-21-84	ADD & REV. NOTES & QUANTITIES		

## ALMA SCHOOL COMMERCIAL CENTER GRADING, DRAINAGE & UTILITY PLANS

TMA CONSULTING ENGINEERS &  
LAND SURVEYORS

ADDRESS: 734 E. BROADWAY ROAD, SUITE E  
MESA, ARIZONA - 85204  
TELEPHONE: (602) 898-1682

DATE: \_\_\_\_\_  
SCALE: NONE  
SEC. 8, T-1S, R-5E  
FLD. BK. - PG. -  
DES: SVCK: C.H.  
SHT: 1 OF 4

JOB NO. 83-022